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09/540,461	03/31/2000	Charles J. Cohen	CYB-05902/03	2113

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John G Posa
Gifford Krass Groh Sprinkle
Patmore Anderson & Citkowski PC
280 N Old Woodward Ave Suite 400
Birmingham, MI 48009

EXAMINER

VU, THANH T

ART UNIT PAPER NUMBER

2174

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

4

Office Action Summary

Application No.

09/540,461

Applicant(s)

COHEN ET AL.

Examiner

Thanh T. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14, 16 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 7, 13, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

This communication is responsive to Amendment A, Filed 7/31/03.

Claims 1-21 are pending in this application. In the Amendment A, claims 1 and 7 were amended. This action is made Final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-12, 14, 16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (U.S. Pat. 6,072,494) in view of Freeman (U.S. Pat. No. 5,454,043).

Per claim 1, and Nguyen teaches a method of behavior recognition, comprising the steps of: analyzing a gesture-making target utilizing a plurality of gesture-recognition modules, each outputting information relating to target location and gesture content (figs 2 and 3; col. 2, lines 6-14); designating certain target locations and content as predefined behaviors (figs 2 and 3; col. 2, lines 6-14); comparing the information from the gesture-recognition modules to the predefined behaviors (figs 2 and 3; col. 2, lines 6-14 and lines 19-30; col. 7, lines 27-31); and in the event of a correlation between the output of the gesture-recognition modules and a particular predefined behavior, determining that the behavior of the target includes the particular gesture (col. 5, lines 60-63). Nguyen does not specifically teach the dynamic gesture content. However, Freeman teaches the dynamic gesture content (fig. 1 and 2A; see Abstract; col. 3, lines 40-67). Therefore,

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it would have been obvious to one of ordinary skill in the art at the time of the invention to include the hand gesture as taught by Freeman in the invention of Nguyen in order to provide static and dynamic hand gestures which give more flexibility for convenient computer control.

Per claim 2, Nguyen teaches the method of claim 1, wherein the target is a human being (fig. 2, col. 5, lines 48-51).

Per claim 3, Nguyen teaches the method of claim 1, wherein the target is a group of people (col. 3, lines 15-21; It is inherent that a dynamic background might have more than one persons in it).

Per claim 4, Freeman teaches the method of claim 1, wherein the target is a human hand (fig. 1 and 2A).

Per claim 5, Freeman teaches the method of claim 1, wherein the gesture-recognition modules output information relating to static and dynamic gestures (fig. 1 and 2A; See abstract).

Per claim 6, Freeman teaches the method of claim 5, further including the steps of: deriving the start position of the target, the end position of the target, and the velocity between the start and end positions (col. 3, lines 40-60); comparing the velocity of the target to a threshold value, and identifying the gesture as a static gesture if the velocity is below the threshold value, otherwise, identifying the gesture as a dynamic gesture (col. 3, lines 31-38; col. 4, lines 25-30; col. 4, lines 50-56).

Per claim 8, Nguyen teaches the method of claim 1, wherein the step of analyzing the gesture-making target includes imaging the target (fig. 2; col. 5, lines 48-51).

Per claim 9, Nguyen teaches the method of claim 8, further including the step of generating a bounding box around the target (col. 7, lines 55-65).

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Per claim 10, Nguyen teaches the method of claim 8, further including the step of using an operator to find the edges of the target (fig. 5B; col. 7, lines 55-65).

Per claim 11, Nguyen teaches the method of claim 1, further including the steps of: receiving a file of recognized gestures along with their vector descriptions; and comparing the outputs of the gesture recognition modules to the vector descriptions (col 7, lines 27-31).

Per claim 12, Nguyen teaches the method of claim 1, further including the step of treating a gesture as a dynamic gesture comprising one or more one-dimensional oscillations (fig. 2; col. 6, lines 18-20).

Per claim 14, Nguyen teaches the method of claim 12, further including the step of deriving complex dynamic gestures by varying phase relationships (col. 5, lines 10-15).

Per claim 16, Nguyen teaches the method of claim 12, further including the step of comparing to the next position and velocity of each gesture to one or more predictor bins to determine a gesture's future position and velocity (col. 9, lines 25-40).

Claims 19, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (U.S. Pat. 6,072,494) in view of Freeman (U.S. Pat. No. 5,454,043) and further in view of Qiao et al. ("Qiao", U.S. Pat. No. 6,075,895). The modified Nguyen teaches the method of claim 1, but does not teach the target includes a robot, a weapon, or a vehicle. However, Qiao teaches the target includes a robot, a weapon, or a vehicle (col. 12, lines 23 –30; col. 12, lines 44-48; col. 1, lines 10-11). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include gesture-making targets as taught by Qiao in the modified

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invention of Nguyen in order to provide various gesture-making targets which give more flexibility of computer control.

Allowable Subject Matter

Claims 7, 13, 15, and 17-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to Amendment A have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh T. Vu whose telephone number is (703)-308-9119. The examiner can normally be reached on Mon-Thur and every other Fri 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (703) 308-0640. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

T. Vu
10/15/03

Kristine Kincaid
KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100